PATENT COOPERATION TREATY

SUNSTEIN CANN, MURPHY & TIMBERS LC* RECEIVED

From the INTERNATIONAL SEARCHING AUTHORITY

- DECEMBER OF THE PROPERTY OF

AUG 2 0 2010 PCT To: BRUCE SUNSTEIN SUNSTEIN KANN MURPHY & TIMBERS LLP 125 SUMMER STREET NOTIFICATION OF TRANSMITTAL OF BOSTON, MA 02110 THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION (PCT Rule 44.1) Date of mailing 19 AUG 2010 (day month year) Applicant's ur agent's file reference FOR FURTHER ACTION See paragraphs | and 4 below 2960/A06WO International application Nu. International filing date (day/month/year) 23 June 2010 PCT/US2010/039587 Applicant BOJARSKI, RAYMOND

1.	\boxtimes	The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.
		Filing of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):
		When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.
		Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70
		For mure detailed instructions, see PCT Applicant's Guide, International Phase, paragraphs 9.004 - 9.011.
2,		The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3.		With regard to any protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
		the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.
		no decision has been made yet on the protest: the applicant will be notified as soon as a decision is made.
4.		Inders
	Inter	applicant may submit comments un an informal basis on the written uprinton of the International Searching Authurity to the national Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an national preliminary examination report has been or is to be catabilished. Following the expiration of 30 months from the try date, these comments will also be made available to the public.
	Inter	tly inder the expiration of 18 months from the priority date, the international application will be published by the national Bureau. If the applicant wishes to evoid or postoone publication, a notice of withdrawal of the international icution, or of the priority clarm, must reach the international Bureau before the completion of the technical preparations for national publishinor (Rules 900s. 1 and 900s.3).
	date acts	in 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary initiation must be filed if the applicant wides to postpone the entry into the nentional phase and 130 months from the priority (in some Offices even later), otherwise, the applicant must, within 20 months from the priority date, perform the proscribed for entry into the national phase before toutse designated Offices.
	In re	spect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 ths.
	For PCT	details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the Applicant's Guide, National Chapters.

Authorized officer

Bleine R. Copenheaver

PCT Helpdesk: S71-272-4300 Telephone No. PCT OSP: 571-272-7774

Mell Stop PCT, Altr: ISA/US Facsimile No. 571-273-3201 Form PCT/ISA/220 (July 2010)

Name and mailing address of the ISA/

Commissioner for Patents
P.O. Box 1450, Alexandrie, Virginia 22313-1450

PATENT COOPERATION TREATY

PCT

Commence of the Commence of th

INTERNATIONAL SEARCH REPORT (PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER	see Form PCT/ISA/220	
2960/A06WO	ACTION	as well as, where applicable, item 5 below.	
International application No.	International filing date (d	ay/month/year)	(Barliest) Priority Date (day/month/year)
PCT/US2010/039587	23 June 2010		24 June 2009
Applicant BOJARSKI, RAYMOND			

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.						
This i	This international search report consists of a total of sheets.					
	It is also accompanied by a copy of each prior art document eited in this report.					
I. B	asls of	the report				
		regard to the language, the international search was carried out on the basis of:				
		the international application in the language in which it was filed.				
		a translation of the international application into which is the language of				
		a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).				
b.		This international search report has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).				
c.		With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. 1.				
2.		Certain claims were found unsearchable (see Box No. 11).				
3.		Unity of invention is lanking (see Box No. III).				
4. W	ith reg	ard to the title,				
the text is approved as submitted by the applicant.						
		the text has been established by this Authority to read as follows:				
5. W	/ith res	ard to the abstract,				
	X	the text is approved as submitted by the applicant.				
		the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant				
		may, within one month from the date of mailing of this international search report, submit comments to this Authority.				
6. W	Vith reg	gard to the drawings,				
8.	the !	igure of the drawlings to be published with the abstract is Figure No10A				
		as suggested by the applicant.				
		as selected by this Authority, because the applicant failed to suggest a figure.				
		as selected by this Authority, because this figure better characterizes the invention.				
ь	. 🗆	none of the figures is to be published with the abstract.				

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2010/039587

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61F 2/38 (2010.01)

USPC - 623/20.15

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC(8) - A61F 2/38 (2010.01) USPC - 60988; 623/20.14, 20.15, 20.31, 20.32

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

100 CONTROL OF THE PROCESS AND ADDRESS OF THE PROCESS OF THE PROCE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatBese

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	
х	US 2008/0058945 A1 (HAJAJ et al) 08 March 2008 (06.03.2008) entire document	16-31, 93-94	
Ÿ		1-16, 32-92	
Υ	US 7,105,026 B2 (JOHNSON et al) 12 September 2006 (12.09.2006) entire document	1-15, 54-86	
Υ	US 2007/0198022 A1 (LANG et al) 23 August 2007 (23.08.2007) entire document	32-92	
Υ	US 2008/0119940 A1 (OTTO et al) 22 May 2008 (22.05.2008) entire document	44, 46-48	

	-	rather documents are inted in the continuation of Box C.	L		
	.A	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T"	T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
	"E"	earlier application or patent but published on or after the international filling date	"X"	X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
		document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is	
	"0"	means		combined with one or more other such documents, such combination being obvious to a person skilled in the art	
	"P"	document published prior to the international filing date but later than the priority date claimed	"&"	&" document member of the same petent family	
	Date of the actual completion of the international search			Pate of mailing of the international search report	
	10 A	ugust 2010		19 AUG 2010	
Name and mailing address of the ISA/US		Authorized officer:			
Mell Stop PCT, Attn: ISA/US, Commissioner for Petents P.O. Box 1450, Alexendrie, Virginie 22313-1450 Facsimile No. 571-273-3201		DOT I	Bleine R. Copenheever		
		PCT OSP: 571-272-7774			

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: BRUCE SUNSTEIN



SUNSTEIN KANN MURPHY & 125 SUMMER STREET BOSTON, MA 02110	TIMBERS LLP	WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)		Y
1		Date of mailing (day/month/year)	19 AUG 2010	
Applicant's or agent's file reference 2960/A06WO		FOR FURTHER ACTION See paragraph 2 below		
International application No.	International filing date	(day/month/year)	Priority date (day/month/year)	
PCT/US2010/039587	23 June 2010	l	24 June 2009	
International Patent Classification (IPC) of IPC(8) - A61F 2/38 (2010.01) USPC - 623/20.15 Applicant BOJARSKI, RAYMOND	both national classifica	tion and IPC		
1. This opinion contains indications rela	ting to the following iter	ns:		- 1
Box No. I Basis of the opi	nion			
Box No. II Priority				
Box No. III Non-establishm	ent of opinion with rega	rd to novelty, inventive	step and industrial applicability	
Box No. IV Lack of unity of	f Invention			
Box No. V Reasoned stater eitations and ex	nent under Rule 43 <i>bis.</i> 1(planations supporting su	a)(i) with regard to nove sch statement	elty, inventive step or industrial applica	ibility;
Box No. VI Certain docume	ents elted			
Box No. VII Certain defects	in the international appl	ication		
Box No. VIII Certain observa	ations on the international	l application		
-				
2. FURTHER ACTION			and the day has a maken and don	of the
If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the international Preliminary Examining Authority (PEAP) except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the international Bureau under Rule 66.1bis/(b) that written opinions of this international Searching Authority will not be so considered.				
If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCTTSA/220 or before the expiration of 25 months from the priority date, whichever expires labor and the provided and the priority date, whichever expires labor and the priority date, which are priority date, whic				
For further options, see Form PCT/ISA/220.				
3. For further details, see notes to Form PCT/ISA/220.				
Name and mailing address of the ISA/US	Date of completion of	this oninion	Authorized officer:	
Mail Stop PCT, Attn: ISA/US	10 August 2010	prinon	Blaine R. Copenheaver	

P.O. Box 1450, Alexandrie, Virginia 22313-1450 10 August 2010 PCT Helpdesk; 571-272-4300 PCT OSP: 571-272-7774 Facsimile No. 571-273-3201

The second secon

International application No. PCT/US2010/039587

3ox	No. I Basis of this opinion
1.	With regard to the language, this opinion has been established on the basis of: the international application in the language in which it was filed. a translation of the international application into translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2.	This opinion has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3.	With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished: a. (means) on paper in electronic form
	b. (time) in the international application as filed together with the international application in electronic form subsequently to this Authority for the purposes of scarch
4.	In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5.	Additional comments:

International application No.

PCT/US2010/039587

Box No. V Reasoned statement under Rule 43bls.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

١.	Statemen

Novelty (N)	Claims	1-15, 17-24, 28-92	YES
	Claims	16, 25-27, 93-94	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-94	NO NO
Industrial applicability (IA)	Claims	1-94	YES
	Claims	None	NO

2. Citations and explanations:

Claims 16, 25-27 and 93-94 lack novelty under PCT Article 33(2) as being anticipated by Hajaj et al. (henceforth Hajaj).

Reporting Claim 16, Helpid discloses a biblia implant for lane enthropiesty (Fig. 5a), the tibbal implant comprising a) a modal bibal invent (modalat bibal baseplains 11 and an anothal tribal interval from the interval enthropiesty. A main chainer modal bibal incomponent 11, Para. (1052)) comprising 1) a substantially planar inner surface for engaging a medial bibal tray face (the interface between 11a and 11b is a list surface as evident in Fig. 5a) and 10) an articular surface (oper surface of 11b) comprising an articular surface of a medial femoral condyle (the concavely curved upper surface of a first bibal insert 11, which mates with the convoly curved surface of a femoral insert in best evident in Fig. 5a and 30; and b) a latticular surface of a femoral insert in best evident in Fig. 5a and 30; and b) a latticular surface of 12b comprising to substantially planar inner surface for engaging a lateral bibal tray face (the interface between 15a and 15b is a flat surface of 13b comprising on a studies surface of 13b comprising an articular surface of 13b comprising an articular surface of 13b comprising and 15b is a flat surface between 15b comprising and 15b is a flat surface of 13b comprising an articular surface of 13b comprising and 15b is a flat surface of 13b comprising and 15b is a flat surface of 13b comprising and 15b is a flat surface of 13b comprising and 15b is a flat surface of 13b comprising and 15b is a flat surface of 13b comprising and 15b is a flat surface of 13b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising and 15b is a flat surface of 15b comprising

Regarding Claim 25, Hajaj discloses the tibial implant of Claim 16, and further teaches of a tibial implant wherein a first tibial tray (modular tibial basepiate 11a) comprises the medial tibial tray face (as evident in Fig. 5a) and a second tibial tray (modular tibial basepiate 13a) comprises the lateral tibial tray face (as evident in Fig. 5a).

Regarding Claim 28, Halp discloses the tible Implient of Claim 18, and further teaches of a tibial implient wherein medial and lateral tibial linears have different oursetures in the respective curvarior portions (albilly to vary curvature between components (the coronal curvature is substantially conforming to the curvature of the femit, while the sapital curvature is less conforming to enable additional media-lateral suitability of the joint and correct for deficient collateral ligements. Parts. (2079; see Parts. 10928).

Regarding Cleim 27, Hajaj discloses the tibial implant of Claim 16, and further teaches of a tibial implant medial and lateral tibial inserts have different articular surface plateau slopes (vary curvature between components Para. [0079], and the location of the lowpoints may be chanced by channols a slope of the tibial component, Para. [00817].

Regarding Claim 33, Haild discloses a kif for Implanting a tibial implant in e patient in need of knee replacement (Para, 10020), the kit comprising; as it ability my tibial beapplet 13a, Fig. 5 and Para, 10052) comprising a first surface for affiting the text by to the patient's light (bottom surface of 13a, Fig. 5a) and an opposing second surface for engaging a medial tibial insert (upper surface of 13a engages tibial insert 13b, Fig. 5ad) part of 13a engages tibial insert 13b, Fig. 5 and Para, 10052), and by how or more medial tibial insert sharing different inschesses different insert helpits, Para (10622) from which to select one medial tibial insert claim sharing different insert sharing engages to the control of the parameter of the para

Reparding Claim 94, Hajal discloses a kit for Implanting a Biblia Implant in e patient in need of knee replacement (Para, 10020)), the kit comprising a rist subtile my (Biblia basepialer 13a, Fig. 6 and Para, 10025) comprising a first surface for affitting the tray to the pellential (biblio (bottom surface) of 13a, Fig. 5a) and an opposing second surface for engaging a lateral Biblia Insert (upper surface of 13a engages biblia insert 13b, Fig. 5a and Para, 10052); and by how or most learned bible insert shaping different incheases different insert heights, 2 had by how or most learned bible insert shaping different inschienses had the surface in the properties of the surface of the properties of the surface in the surface of the surface in the su

International application No.

DCT/I IS2010/030587

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Claims 17-24 and 28-31 lack an inventive step under PCT Article 33(3) as being obvious over Hajaj et al. (henceforth Hajaj).

The second secon

Regarding Claim 17, helpal discloses the tibal implant of Claim 16, and further teaches of a tibal implant wherein the distance from the inner strates to the articular surface of the medial fable insent is different from the distance from the inner surface to the interest in the articular surface of the interest libel insent (vary tibal insent histories to the result are interest to the interest insent inthicknesses can be used in each of the medial and interest compentments, Para (DBRZI); but fills to explicitly teach wherein the distance is a minimum distance. It would heve been obvious to one of ordinary still in the ent at the time the invention was made to ellow e measurement for companing medial and Isteral tibal insents to be based on a minimum distance, to provide optimize behanding and alignment of a reconstructed knee joint, since discovering the optimum value of a result effective variable involves only routine skill in the art.

Regarding Clem 18, Hajel discloses the tibal Implant of Claim 16, and further teaches of a tibal Implant wherein the distance from the interest uncle or the extractive price of the medial tibal insert is different from the distance from the terror surface of the lateral Itibal insert (vary tibal insert thickness to thereby adjust a height of the fisent, and to achieve ligament balance, different insert instructions are supported in each of the medial and lateral compartments. Para. [0.0922]; but falls to explicitly teach wherein the distance is anximum distance. It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow a alignment of a reconstructed kine joint, since decovering the optimum value of a result disclosure variable inches only routine skill in the

Regarding Claim 19, Heigl discisses the libble implient of Claim 16, and further teaches of a tible limpent wherein the distance from the inner surface in the articular surface of the medical hall insert, is different from the distance from the inner surface of the extract of the literal tible insert (very tible linear thickness to thereby adjust a height of the insert, and to exhibit ligament belaince, different insert thicknesses can be used in each of the medial and lateral compartments, Para (1002); but falls in a capitally teach wherein the distance is a everage distance. It would have been obvious to one of ordinary skill in the art at the time the invertion was made to allow a measurement for comparing medial end lateral tible interest to be based on an average distance, to provide optimal balancing and alignment of a reconstructed knee joint, since discovering the optimum velue of a result affective variable involves only rouline skill in his and

Regarding Calam 20, Halpi discloses the tibial implant of Claim 16, but fails to explicitly basch of a tibial implant wherein his distance form the Inner surface to the enticlaim surface of the model tibile hares it substantially different from the distance for the articular surface of the interest involved have been obvious to one of ordinery skill in the ent at that time the invention was made to allow the distances from the inner surface to the articular surface to it medial tibile insert, i.e., the middle insert invention was explained to allow the distances from the inner surface to the articular surface of a tester all bilenser, i.e., the inflored insert invention in the distance from the inner surface to the articular surface of a later all bilenser, i.e., the inflored insert invention in the surface of the articular surface of a later all bilenser, i.e., the inflored insert invention in the surface of the articular surface of a later all bilenser, i.e., the inflored insert invention in the surface of the articular surface of a later all bilenser, i.e., the inflored insert invention in the surface of the articular surface of a later all bilenser, i.e., the inflored insert invention in the surface of the articular surface of a later all bilenser, i.e., the inflored insert invention in the articular surface of a later all bilenser, i.e., the inflored insert invention in the articular surface of a later all bilensers, i.e., the inflored insert invention in the articular surface of a later all bilensers, i.e., the inflored insert invention in the articular surface of a later all bilensers, i.e., the inflored insert invention in the articular surface of a later all bilensers, i.e., the inflored insert invention in the articular surface of a later all bilensers, i.e., the inflored insert invention in the articular surface of a later all bilensers, i.e., the inflored insert invention in the articular surface of a later all bilensers. I.e., the inflored insert invention in the articular surface of a later all bi

Regarding Calam 21, Haigi discloses the thisis implant of Claim 16, but fells to axplicitly teach of a titlal implant wherein the dislance from the Inner surface to the articular surface of the medical tibil inserts it significantly different from the dislance from the surface to the articular surface of the internal tibil insert. It would have been obvious to one of ordinary skill in the or it if the time the threndfor was made to lastly mit distance from the finer surface to the articular surface of a medial tibil insert, it.a., the medial insert indextens, to be significantly different from the distance from the internal time to the control of the control

Regarding Calam 22, Hajai discloses the tible Implent of Claim 16, and further backets of a tible Implant wherein the distance from the Inner surface to a point of the endusine surface of the medical tible lines to different from the distance from the Inner surface to a point of the activate surface of the islend tible lines of tible lines to there they adjust a height of the Innert, and to active tigament behave, different insert thicknesses can be used in each of the medical end direct compartment, Pere, 1002(2); but fails to explicitly teach wherein the point is a central point. It would have been obvious to one of ordinary still in the srt at the time the invention was made to allow allowed the point of the

Regarding Cain 23, Hejal discloses the tible implant of Claim 18, end further teaches of a tible implant wherein the disinance from the inner surface to a point of a contact eras of the enduces unaface surface of the medical bill insent of different from the dislance from the inner surface to a point of a contact area of the articular surface of the lateral tible insent quary tible insent thickness to thereby adjust a height of the insent, end to achieve ligament behave, different insent thicknesses can be used in each of the medial and lateral compantements (1082E); but fails to explicitly teach wherein the point is a central point. It would have been obvious to one of ordinary skill in the art at the time the Invention were made to allow an ensesument low is an electric point, to aid in behavior, and alignment a knee joint reconstruction, since defining a reference point from which to make a measurement is well known in the art.

Internetional application No. PCT/US2010/039587

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Regarding Calam 24, Hajal discloses the titleal implant of Calam 16, and surther teaches of a titleal implant the distance from the lines surface to a point of the instructions of the medial titleal insert is different from the distance from the lines articate to a point of the articular surface of the lateral titleal insert (vary tible insert thickness to thereby adjust a height of the insert, and to achieve ligament believes, different insert thicknesses can be used in each of the medial and insert organizations. Para, 100(25), but tills to expelling lead wherein the point is an edge. It would have been outdoors to disclose 3 or ordinary skill in the art at the time the interestion, was made to allow wherein the point is an edge. It would have been outdoors to call or ordinary skill in the art at the time the interesting was the standard of the control of the co

Regarding Calin 28, Hajai discloses the tibal lengtant of Claim 18, and turber teaches of a tibal implant wherein the media tibal insert is gallest-matched (a prosthetic device having a precise if for each patient, Para. [0.070; by the surgeon can alter the sponsety, configuration of the postability device to meet the customized needs of the patient in each region of the joint, Pera. [0.071); but fells to explicitly teach wherein the slope for the articular surface plates of the medial bital instal patient-matched to the patients made to all the patients and the patient matched to the patients made to all the patients are patients. The patient matched to the patients made to all only the goometry consistent of the patients are patients. The patient matched to the patients made to all only the goometry consistent of the patients are patients. The patients are patients are patients and the patients are patients and the patients are patients. The patients are patients are patients are patients and the patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients are patients. The patients are patients are patients are patients are patients are patients are patien

Regarding Calim 29, Haigi discloses the titlal implant of Claim 16, and further feeches of a titlal implant wherein the modal titlal instruction is patient-material of prosthetic device having precise is for each patient. Part. B/D079; the surgeon can aller the geometry, confidence of the positive device to meet the customized needs of the patient in each region of the joint, Part. B/D071); but tall to explicitly teach wherein this slope of the articular surface plateau of the medial bital instal in patient-material to the patients in patient-material to the patients in patient material to the patient material to the patients in patient material to the patient material to the patients in patient material to the patie

Regarding Calam 39, Heigi discloses the tiblat Implant of Calim 18, and further teaches of eitbild Implant whamin the medial tiblat Insert is patient-metricle (a prostated calver having a precise is for each patient). Pera. (2079; its exurgance one) either the geometry, confidently, and/or configuration of the prosthatic device to meet the customized needs of the potent in each region of the joint, Pars. (2071); but falls to explicitly seek wherein the slope for the error later of period and the patient in each patient in the patient in the

Regarding Cleim 31, Hejej discloses the tibel implant of Claim 16, and further teaches of a tibal Implant wherein the madled libsel Insart is patient-matched (e prosthelled davide heiving a predese lift for each patient). Pura, [0707], the surpeon can alter this geomatry, conformity, and/or configuration of the prosthellad devide to meet the customized needs of the patient in each region of the binity. Pare, [0717], but fly, and/or configuration of the patient in each region of the binity, Pare, [0717], but fly, and or construction of the patient in each region of the binity, Pare, [0717], but fly, and provided the patient of the store of the patient in each region of the patient is made if the patient is regionally the patient of the patient in each region of the patient is regionally the patient in the patient is regionally the patient in the patient is regionally the patient in the patient in the patient is regionally the patient in the patient of a patient is regionally the patient in the patient is regionally the patient in the patient in the patient is regionally the patient in the patient in the patient is regionally the patient in the patient in the patient is regionally the patient in the patient in the patient is regionally the patient in the patient in the patient is regionally the patient in t

Claims 1-15 leck en invantive step under PCT Article 33(3) as being obvious over Johnson et al. (henceforth Johnson) modified by Hejaj et al. (henceforth Hajaj).

Ragarding Claim 1, Johnson discloses a tibial implant (404/420/422, Fig. 20B) for knae erthroplasty (prosthetic knaa system Abstrect), the tiblel implant comprising: a) a tiblai trey (422) sized and shaped generally for placement on e proximal surface of a tibla of e patient (fastening baseplate 422 to the tiblel bone, Col. 11, Lns. 7-10) and having at least one insert locking mechanism (shoulder 441, Col. 11, Lns. 40-45); b) e first insert (leterel component 450 of tibial insert 420, Figs. 20A/20C) comprising a first reciprocel locking mechanism (A ledga 468 extands around the outer perimeter and is adapted to engaga shoulder 441 when tible! Insart 420 and tiblal baseplate 422 are connected together, Fig. 20B Col. 11, Lns. 40-45), a first bottom surface (bottom of 450) for engaging e surface of the tibial tray (A generally planar surface 464 is oppositely disposed from the condyler surface and is adapted to engage and connect to surfaca 440 of the tibial baseplete, Col. 11, Lns. 38-39), a first articular surface portion (460A) generally opposite the first base surface (as evident in Fig. 20C), end a first thickness extending in a generally perpendicular direction between the first bottom surface and the first articular surface (thickness of 450 in Fig. 20C); and c) a second insert (medial component 452 of tiblal insert 420, Figs. 20A/20C) comprising a second reciprocal locking mechanism (shoulder 441, Col. 11, Lns. 40-45), e second bottom surface (bottom of 452) for engaging a surface of the tibial tray (Col. 11, Lns. 36-39), e second articuler surface portion (460B) generally opposite the second base surfece (as evident in Fig. 20C), end a second thickness extending in a generally perpendicular direction between the second bottom surface and the second articular surface (thickness of 452 in Fig. 20C); but falls to explicitly teach of a tiblal implent wherein the first thickness is greeter than the second thickness. Hajaj, however, teaches of a tibial implant wherein e first thickness is greater than a secon thickness (vary tibial insert thickness to thereby adjust a height of the insert, and to achieve ligament balance, different insert thicknesses can be used in each of the medial end lateral compartments, Pare. [0082]). It would have been obvious to one of ordinary skill in the ert at the time of the invention to use the different tibial insert thicknesses of Hajaj with the disclosure of Johnson to eld in creeting a knee prosthesis capable of providing improved medial-lateral joint stability.

International application No. PCT/US2010/039587

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding Claim 2, Johnson modified by Helpil discloses the tibal tray of Claim 1, but falls to explicitly mech of a tibbla imprisin wherein the first and second thicknesses are measured image openphic centers of the first end second carticular surfaces, respectively. It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow measurements of the thicknesses of first and second tibel insents, for comparison purposes, but be with repeat to a reference point such as the geographic centers of the first and second contact areas of the first and second exclusive surfaces, respectively, to add it providing a made a measurement of the first and second contact areas of the first and second exclusive surfaces, respectively, to add it providing a made a measurement is well known in the art.

The state of the s

Regarding Cilium 3, Johnson modified by Heigi discloses the tible laray of Cilium 1, but falls to explicitly teach of a tiblal implant wherein the first and second thicknesses are measured from corresponding edges of first and second contact areas of the stand second efficient surfaces, respectively. It would have been obvious to one of ordinary still in the ert at the time the invention was made to relate the measurements of the thicknesses of first and second second analysis of the thicknesses of first and second second articular surfaces, respectively, to all in providing a patient set the object of the standard second second articular surfaces, respectively, to all in providing a patient of the standard second second

Regarding Cellin 4, Johnson modified by Hejal discloses the table larry of Calain 1, but falls to explicitly teach of a table impaint wherein the first and second rational returns are measured from central points of the first and second rational returns, respectively. It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow measurements of the thicknesses of first and second table inserts, for comparison purposes, to be with respect to a reference point such as the central points of the first and second table inserts, for comparison purposes, to be with respect to a reference point such as the central points of the first and second contact areas of the first and second articular surfaces, respectively, to eld in providing a potent specific table linear for ordinal belanding allowant of froorstructed knew joint, sizes defining a reference point from which to medica a measurement has well known in the last.

Regarding Celen 5, Johnson modified by Helgi discloses the shall key of Celen 1, but fails to explicitly teach of a libial impaint wherein the rist and second tribiness are measured from the point of the first and second stocker surfaces in the recibiness to the first and second stocker surfaces that are closes to the first and second stocker surfaces, respectively. It would have been obtains to one of ordinary skill in the aft of the time the invertion was made to callow measurements of the inhichnesses of first and second distillerance for compension purposes, to be with respect to reference plord, such as from the point of the first and second activate surfaces that are closest to the first and second soften surfaces, to ad it providing makes a measurement is well known in the set.

Regarding Claim 8, Johnson modified by Helgi discloses the libel trey of Claim 1, but fells to explicitly feeth of a tibial implicit here in an assert manufacture in the first and second bottom surfaces in the return these throm the return descond return architects that are furthest from the first and second bottom surfaces, respectively. It would have been obvious to one of ordinary skill in the of at the time the invertion was made to allow measurements of the hicknesses of first and second bottom surfaces, respectively, but as the point of the first and second arbition surfaces that are furthest from the first and second bottom surfaces, respectively, to all of the first surfaces a measurement is well known in the surface disconding the surfaces are supported by the surface of the surfaces are surfaces.

Regarding Claim 7, Johnson modified by Hajaj discloses the tibel trey of Claim 1, but fails to explicitly teach of a tibial implant wherein the first end second hischnesses are overage hisknesses of the first and second hischnesses (he will be the condensy skill in the et the time the invention was made to allow first and second hisknesses to be average thicknesses of the first and second mischness to be average thicknesses of the first and second hisknesses to be average thicknesses of the first and second history to be average thicknesses of the first and second history to be average thicknesses of the first and second history to the average thicknesses is well known in the average thicknesses in the second history to the average thicknesses is well known in the average thicknesses in the second history to the average thicknesses in the second history to the average thicknesses in the second history to the average thicknesses the average thicknesses of the first and second history to the average thicknesses of the first and second history to the average thicknesses of the first and second history to the average thicknesses of the first and second history to the average thicknesses the average the average thicknesses the average the average thicknesses t

Regarding Claim 8, Johnson modified by Haljal discloses the libbal tray of Claim 1, but falls to explicitly feach of a tibbal implant wherein the first hickness is substantially greater than the second thickness. It would have been obvious to one of ordnery skill in the art at the time the invention was made to allow the thicknesses of a first tibial insert to be substantially greater than a second tibial insert, to provide optimal balancing and alignment of a reconstructed knee joint, since where the general conditions of the claim are disclosed in the prior art, discovering the optimum or workside ranges involves only routine skill in the art.

Regarding Claim 9, Johnson modified by Hajid discloses the tiblal tray of Claim 1, but falls to explicitly heach of a tiblal implicit wherein a discount wherein a discount of the first and second thicknesses is a statistically significant difference. It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow the difference in thicknesses of first and second tibel inserts to be a statistically significant difference, to provide optimic balancing and eligiment of a reconstructed here joint, since where the general conditions of the claim are disclosed in the prior art, descovering the optimic or vortables regards involves only routine skill in the art.

Regarding Claim 10, Johnson modified by Hajd discloses the tiblal tray of Claim 1, Johnson falls to explicitly teach of a tible limitary wherein a difference in the thickness of the first and second thicknesses is a clinically significent difference. Figure 1 tible is a clinically significent difference in thickness of list end second insert thicknesses is a clinically significant difference (to achieve Ignment balance, different insert thicknesses on the used in sect of the medial and lateral compartments, pers. (DOSE). It would have been oxivous to one of ordnersy skill in the art at the time of the invention to use the different tible insert bricknesses of his time of the invention to use the different tible insert bricknesses of his place.

International application No.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Regarding Caim 11, Johnson modified by Hajel discloses the tibila tray of Calient in Johnson falls to sopility teach of a tibila implant wherein a difference in the thickness of the first and second bicknesses is sufficient to holduse a clinical effort. Hajel, however, tomber of tibila implant wherein a difference in thickness of first and second insert thicknesses sufficient to induce a clinical effect (by activities) (against balance, different insert thicknesses can be used in each of the mediate and issurf propertients; Para (DoSE2). It would have been obvious to one of ordrary skill in the art at the time of the invention to use the different tibila insert thicknesses of Haja) with the disclosure of Johnson to provide additional models latent plot stability.

The state of the s

Regarding Claim 12, Johnson modified by Hajaj discloses the tibal tray of Claim 11. Johnson falls to explicitly teach of a tibal implant wherein the clinical effect is an alignment of at least a portion of the knee. Hajaj, however, leaches of a tibal implant wherein the clinical effect is an alignment of at least a portion of the knee to acheive igament balance, different insert thicknesses can be used in each five modal and lateral compartments, Para (1002p). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the knee both a lamment accroser of I thali with the disclosure of Johnson to provide additional modal-lateral folls stability.

Regarding Calim 13, Johnson modified by Hajaj discloses the tibial tray of Calim 11, Johnson fails to explicitly leach of a tibial impaint wherein the clinical effect as a basinging of all easts portion of the lone. Hajal, however, teaches of a tibial impaint wherein the clinical effect is a basinging of all easts a portion of the innee (in active tigament basines, different insert bidensesses can be used in each of the model and interior compartments to cornect for deformaties each as vargues and valgue, Paran. (2002). It would have been obvious to one of cordinary skill in the art at the time of the invention to use the knee joint balancing approach of Hajaj with the disclosure of Johnson to convolve admittens medical-lateral interior stability.

Regarding Calim 14, Johnson modified by Hajel discloses the fibial tray of Calim 1. Johnson falls to explicitly teach of a libble implant wherein the first and second inserts have different curvatures on respective articular surface portions. Helgi, however, teaches of a tibbal implent wherein first and second inserts have different curvatures on respective articular surface portions; ability to vary curvature between components: the coronal curvature is substantially conforming to the curvature of the form, while the sagittal curvature is less conforming to enable additional media-leteral stability of the pint and coronal for disclosure of the form, while the sagittal curvature is less conforming to enable additional media-leteral stability and the pint and coronal curvature is less conforming to the curvature is less conforming to enable additional media-leteral stability.

Regarding Celain 15, Johnson modified by Hejaj discloses the tibilat ray of Celain 1, Johnson falls to explicitly teach of a bible import wherein the first and second inserts have different slopes on respective articular surface portions, Hejaj, however, inaches of a bibli implant wherein first and second inserts have different slopes on respective articular surface portions (vary curvature between components Para, (1079), end the location of the weighorts may be knaped by changing a stope of the bibli component, Para, (1081), it would have been obvious to one of ordinery skill in the art at the time of the invention to use the knee joint alignment epproach of Hejaj with the disclosure of Johnson to provide additional media-latent joint stability.

Claims 32-43, 45, 49-53 end 87-92 lack an inventive step under PCT Article 33(3) es being obvious over Leng et el. (henceforth Leng) modified by Halei et el. (henceforth Halai).

Regarding Claim 32. Long discbase a method for making a Ubbil Implant (Bibil Implant 2415, Para. (0154)) for use it in replating or replecting a kine of a petient (pin kine of a petient) give its companies, and enterorized yearbuilding at least a portion of the kines besed on image date of the kines (imaging and enalysis to determine the dimensions and shape of a joint, Peragraphs (0190)-(1919); and b) specifying one or more parameters of the tibel implant bases at least in part on the eveletion (fine dimensions, everel size and shape of an implant may be optimized with regard to corticle bone shape and dimensions, contical bone blackness, endosteal bone shape, size of an implant may be optimized with regard to corticle bone shape and dimensions, contact bone blackness. Thus, a marrow cavity, articular surface shape, size of marrow cavity, articular surface in shape and dimensions, buchdonals bone shape, and dimensions, or subchonals bone shape, size of marrow cavity, articular surface in shape and dimensions, which is supported to the provider and or of the shape and dimensions, or subchonals bone shape, size of surface instances to a proximal and or all bits of the knew when the bibal implant is implanted to the proximal end of the biba, of the shape and dimensions are shaped to the proximal end of the biba, of the shaped to the sh

Regarding Claim 33, Lang modified by Hajaj discloses the method of Claim 32. Lang further teaches wherein e method further comprises planning a suspical result (surgical planning, Para. [0068]) based on the electronic image data of a patient's knee (imeging of knee joint, Paragraphs [0063] and [0198]).

Regarding Claim 34, Lang modified by Hajaj discloses the method of Claim 32. Lang further teaches of a method wherein the specified parameters (Para. [0191]) define at least in part a configuration of a tibal implant to substantially achieve a planned surgical result (These parameters may also be optimized for implant function, e.g., for different degrees of joint feation or extension, Pera. (1917) and the parameters may be optimized for implant function, e.g., for different degrees of joint feation restrictson, Pera. (1917) and the parameters may be optimized to the parameters are parameters and the parameters are parameters are parameters are parameters are parameters and the parameters are parameters and the parameters are parameters and the parameters are parameters are parameters and the parameters are parameters are parameters are parameters and the parameters are parameters are parameters are parameters are parameters and the

Regarding Claim 35, Lang modified by Hajaj discloses the method of Claim 34. Lang further teaches of a method wherein the surgical result is knee balancing during a surgical procedure (ligament balancing, Para. [0423]).

Regarding Claim 36, Lang modified by Hajaj discloses the method of Claim 35. Lang further teaches of a method wherein the knee balancing comprises knee balancing during extension (ligament balancing, Para. [0423]).

Internetional epplication No.

PCT/US2010/039587

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Regarding Claim 37, Lang modified by Hejaj discloses the method of Claim 35. Lang further teaches of e method wherein the knee balanding comprises knee balanding during flexion (figament balanding comprises knee balanding during flexion (figament balanding Para. [0423]).

Regarding Claim 38, Lang modified by Hajaj discloses the method of Claim 34. Lang further teeches of a method wherein the surgical result is knee allonment (Joint allonment, Para, 10423)).

Regarding Claim 39, Lang modified by Hajaj discloses the method of Claim 38. Lang further teaches of a method wherein the knee alignment comprises knee alignment of anatomical axes (Paragraphs (0435), (0438) and (0439)).

Regarding Claim 40, Lang modified by Hajaj discloses the method of Claim 38. Lang further teaches of a method wherein the knee

Regarding Claim 41, Lang modified by Hajaj discloses the method of Claim 38, Lang further teaches of a method wherein the knee alignment comprises knee alignment of femur and tibia (total knee replacement involving femoral and tibial component rotation, Claims 97-88 and 101-101.

Regarding Claim 42, Long modified by Hajd discloses the method of Claim 41, Long further teaches of a method wherein the elignment of fearur and this commission axis of alignment of stress and this (correction) axis of alignment of stress read this (correction) axis of alignment of stress read, axis of alignment of stress read, axis of alignment of stress read, axis of alignment of stress read axis of a

Regarding Claim 43, Lang modified by Hajaj discloses the method of Claim 41. Lang further teaches of a method wherein the alignment of femur and tibia comprises rotational alignment of femur and tibia (total knee replacement involving femoral and tibial component installon, Claim 97-98 and 101-103).

Regarding Calaim 45, Larg modified by Heigi discloses the method of Claim 32. Larg further teaches of a method whemin line legardingly relating large and portion of the knee comprises determining a difference in the relative position of el least a portion of first and second articular surfaces of the knee (imaging and analysis to determine the dimensions and shape of a joint, Paregraphs 10/98/JUSPIN.

Regarding Ciliam 49, Long discloses a method for making at this implant (2415, Para, [0154]) that substantially matches a pattern's biological feature in one or more measurements (Generale a custom, pattern specific implant 34, Fig. 1), or as a predetermined precentage thereof, he method comprising; a) pre-operatively identifying a feature measurement of the pattern's point (determining oint space width of a tree joint using integrating the medial and aftered plant space width of a tree joint using implant part of the pattern of the pattern's point pattern of the pattern's point space width of a tree joint using a pattern of the pattern of the

Regarding Claim 50, Leng modified by Hajaj (discloses the method of Claim 49. Leng further teaches of a method wherein designing the at least one of the medial tibla insert and lateral tiblal insert comprises computer-alded design/CAD and computer-added manufacturing/CAM the articular repair system is either selected - beset on best filt from a catalogue of existing, pro-made implants with a range of different sizes and curvatures or custom-designed using CAD/CAM technology. The library of existing shapes is typically on the order of about 30 staces, Para (DeStar).

Regarding Claim 51, Lang modified by Hejaj discloses the method of Claim 49. Lang further teaches of a method wherein designing the at least one of the mediat libtal insert and lateral libtal insert comprises cutting the feature measurement from a blank (the use of rapid protobyting, Para, (10951, and CAD/CAM technology, Para, (10951, allows cutsomback that libtal larest to be produced).

Regarding Calim 52, Lang modified by Heigi discloses the method of Claim 49. Leng further teaches of a method wherein he substantially matching feature measurement is selected from the group consisting of an insert mediotalizer all demands as the substantially matching feature mediotalizer all demands or a predetermined percentage thereof (miplant design based on imaging data of patient participations), including the mediotalizer all demands and shape, parts. [1911], an internet thickness substantially matching or corresponding thickness of resched patient issue or a prodetermined percentage thereof, an insert participation substantially matching as corresponding before the participation of present perfectors of the participation of t

International application No. PCT/US2010/039587

Supplemental Box

In case the space in any of the preceding boxes is not sufficient. Continuation of:

Regarding Claim 53, Leng modified by Hajej discloses the method of Claim 49. Lang further teaches of e method wherein substantially metching includes optimizing smoothing e line or curve of the patient's biological feature (smoothing operation, Para. [0237]).

The second secon

Regarding Claim 67. Lang discloses a method for balancing or optimizing ligament tension during implentation of a linear length in particular planting (gardine). The method comprising the steps of to essessing the patient media plant ped politance and length of the tension (determining plant space with of a kneep justices of the patient patient of the patient patient of the patient patient of the patient pat

Reporting Claim 88, Lang modified by Hajgi discloses the method of Claim 67. Lang falls to explicitly leach of a method wherein the selected modal and learnal tibil interests have different thicknesses. Hajgi, however, suches to a method wherein modal and lateral tibil inserts have different hischnesses (vary tibil insert have different hischnesses (vary tibil insert have) adjust a height of the insert, and to achieve ligament balance, different insert thinsnesses can be used in each of the modal and lateral compartments, Perc (Do023), it would have been odivious to one fordinery skil in the art at the time of the invention to use the tibila inserts with different thicknesses approach of Hajaj with the disclosure of Lang to all in creating a kneep conclused scapable of providing improved modal-alteral joint stability.

Regarding Claim 88. Lang modified by Heipl discbase the method of Claim 87. Lang fiells to explicitly leach of a method wherein in stop () the selection indied libbil instent is selected from among two or more modal tibbil instent having different inchicrases. Heipls, however, teaches wherein the selected medial tibbil instent having different thicknesses (very tibbil insert its claims so to hereby adjust a height of the insert, and to achieve ligament balance, Para, 10828). It would have been obvious to one of ordinary skill in the set at the time of the invention to use the fibel inserts with different thicknesses approach of Heipl with the disclosure of Leng to eit in creating te kneep prosthesis organized providing improved medial-stateral joint stability.

Regarding Claim 90, Larg modified by Helpi discloses the method of Claim 87. Lang falls to explicitly feach of a method wherein in tape;) the selected intered liber liber that it selected from among two or more libered liber liber when different bilicknesses. Helpi, however, teaches wherein the selected lateral tible insert in selected from among two or more lateral tible insert having different bicknesses (vary tible insert thismess to thereby edglar a helpin of the insert, and to echetive (igneent belience, Peno, 1002a). It would have been obvious to one of ordinary skill in the eff at the time of the invention to use the tible inserts with different thicknesses approach of Helpi with the disclosure of Lang to add in resering is new posteriors.

Regarding Cleim 91, Leng modified by Hajaj discloses the method of Claim 87. Lang felts to explicitly teach of a method wherein the selection of one or both medial and islated libid insents substantially restores the pellunt's neture inselated and instant of larges. Hajaj, however, teaches wherein the selection of one or both medial and islated libid largers substantially restores the patients natural medial and islated plotting page (the implicated components of the proshedic device enable optimal restoration of joint kinematics based on pellunt enablating and previous joint function. Prev. [0072]]. Nurold have been obvious to one of ordinary still in the art at the time of the invention to use the libid inserts with different thicknesses approach of Hajaj with the disclosure of Leng to eld in creeting a knee prosthesis cepable of providing improved medic-letted joint stability.

Reperting Claim 32, Lang modified by Haigl discloses he method of Claim 87. Lang falls to exclicitly leach of a method wherein the selection of one of both medial and learnst libial inserts busheratedly settles the patients are unless inserted. He provides the selection of one or both medial and sleral tibal inserts substantially restores the patients naturel kinematics. Help, however, teaches wherein the selection of one or both medial and sleral tibal inserts substantially restores the patients naturel kinematics (the implanted components of the prosthetic device enable optimier lessestion of pirit kinematics (best on provide in entire private) point introduced. Para. [D072], it would have been obvious to one of ordinary skill in the art of the time of the invention to use the fall all inserts with different factors and the provides of the provides of the provides of the provides of the dischause of Lang be lath or casting a three prosthess to capable of providing improved metal-visited.

Cielms 44 and 46-48 lack an inventive step under PCT Article 33(3) as being obvious over Lang et ei. (henceforth Lang) modified by Haje] let ei. (henceforth Haja)) and Otto et ei. (henceforth Otto).

Regarding Cleim 44, Lang modified by Hajel disclores the method of Cleim 34, but felts to explicitly beach of a method wherein it is surjiced result comprises establishment of eight lime for a medial compartment of the knee relative to a lateral compartment of the lime relative to a lateral compartment of the knee. Olto, however, teaches of a method wherein a surjical result comprises establishment of eight line of a medial compartment of the knee relative to a lateral compartment of the knee relative to a lateral compartment of the knee desirable to a desirable only professes escording to certain embodiements and espects of the invention professably replicate this physiological joint line 227, Pars. (DeSt). It would now been obtain to one of ordinary sold if the a stable of the control of the property implicating a transfer of the professable compartment of providing improved medial-leating joint stability. (One with the discloration of the property implicating a transfer of the property implication and the pr

International application No.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Regarding Calin 46, Lang modified by Hajid discloses the method of Calin 32. Lang further teaches of a method wherein the electronically evaluating at least as of the wilding at least as of the Micro (Dathani) gains got dat of the knee, Para. (0093)); but fails to explicitly teach wherein the feature is the joint line. Otto, however, leaches of a method wherein a surgical result comprises establishment of a knee joint line (joint line setablished by prosthesses according to certain embodiement and aspects of the invention preferably replicate this physiological joint line 227, Para. (0080)). It would have been obvious to one of ordinary stall in the set at the property of the property of the property of the property in the property in the property of the property in the p

Regarding Claim 47, Lang modified by Hajaj and Otto discloses the method of Claim 46, but fails to explicitly teach wherein determining a pint in or the knee comprises presurpically determining plant line of the knee; would have been obvious to one of ordinary skill in the eff at the lime the hereinfor was made to use the threight glachriques of Lang in Claim 48 to determine the joint line of a knee, as per Otto in Claim 48, prior to surgery, to eld a surgeon in correctly placing a implant while minimizing tissue trauma, since using imaging techniques to determine bint features proporatively is well known in the at.

Regarding Claim 48, Lang modified by Hajal and Otto discloses the method of Claim 46, but fails to explicitly teach wherein determining a joint line of the hine comprises postsurgically determining a joint line of the kines. It would have been obvious to one of ordinary still in the art at the time the invention was made to use the invenging clathicages of Lang in Claim 48 to determine the joint line of the kines, exposing the contract of Lang in Claim 48 to determine the joint line of the kines, exposing the contract of the contract of Lang Assistance and the contraction of t

Claims 54-86 lack an inventive step under PCT Article 33(3) as being obvious over Lang et al. (henceforth Lang) modified by Johnson et el. (henceforth Johnson) and Halai et el. (henceforth Halai).

Regarding Claim 54, Lang discloses e method for implanting a knee implant in a patient's knee (tibial implent 2415, Pera. [0154]), the method comprising the steps of: a) preparing a proximal end of a tibla to receive an implant (use of templates and cutting guides for cutting the tibia and forming anchoring epertures, Paragraphs (0615]-[0616]; also 2140 in Fig. 23); and b) inserting at least one tibial implant onto the prepared proximal and of the tibla (tibla) implant inserted with pags pointing into drilled holes, Peregraphs [0690]-[0691]; also 2142 in Fig. 23); but falls to explicitly teach of insertion of at least one tibial implant such that a first articular surface of the at least one implant engages a first articular surface of a femur or femoral implant, and a second erticular surface of the at least one implant engages a second articular surface of the femur or femoral implant; and wherein the first articular surface is higher then the second articular surface relative to an anatomical axis of the tibla. Johnson, however, teaches of insertion of at least one tiblai implant (prosthetic knee system implantable in a knee using minimally invasive surgery, Ct. 16 and Fig. 21A) such that a first articuler surface of the at least one implant engages a first articular surface of a femur or femoral implant (left component of 504 engages 502, Fig. 21A and Col. 12, Lns. 5-11) and a second articular surface of the at least one implant engages a second articular surface of the femur or femoral implant (right component of 504 engages 502, Fig. 21A and Col. 12, Lns. 5-11), in addition, Hajaj teaches of a tibial implant wherein a first articular surface is higher than a second articular surface relative to an anatomical axis of the tibia (to achieve ligament balance, different insert thicknesses can be used in each of the medial and laterel compartments, Pera. [0082]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the modular knee implant of Johnson and the tibial insert thickness approach of Heial with the disclosure of Lang to provide additional medial-lateral joint stebility.

Regarding Claim 55, Leng modified by Johnson and Hajaj discloses the method of Claim 54, Leng falls to explictly teach of a method wherein the et least one tiblal implant comprises a single tiblal implant tray. Hajaj, however, tauches of a method wherein at least one tiblal implant comprises a single tiblal implant tray (602a, Fig. 1), it would have been orbivous to one of ordrieny still in the art at the time of the invention to use the single tiblal tray approach of Hajaj with the disclosure of Lang to create a knee prosthasis capable of providing improved model-lateral joint stelling.

Regarding Claim 58, Leng modified by Johnson and Heigl dischoses the method of Claim 55. Lang falls to explicitly teach of a method further comprising a single titibil insert. Heigh, lowever, incelers of a titibil impenii further comprising a single titibil insert (1620; Fig. 1); would have been obvious to one of ordinary still in the art at the time of the invention to use the single titibil insert spoposach of Heigh with the disclosure of fanal to create is after contralest coadable of providing theorycent media-failest reliant stilling.

Reparding Claim 57, Lang modified by Johnson and Hajal discloses the method of Claim 55, Lang falls to explicitly teach of a method turther comprising dust libid in insert Hajal, however, teaches of a tibid implient further comprising dust libid insert is (11/15/36, 156, 31), would have been obvious to one of ordinary skill in the art at the time of the invention to use the dust libid insert approach of Hajal with the disclosure of Lang to create a knee possthesis capable of providing improved media-lateral joint stability.

Regarding Claim 55. Lang modified by Johnson and Hajid discloses the method of Claim 54. Lang falls to explicitly teach of a method wherein the at least one Bibli impliant comprises two bible impliant trays. Haji, however, teaches of a tibbal impliant there compristing two bible limpliant trays (11a1/3s, Fig. 5s). It would have been obvious to one of ordinary said in the art at the time of the invention to use the characteristic composure of height with the disclosure of Lang to create a temper possible scapable of providing improved madial-alaral joint and below the composure of height with the disclosure of Lang to create a temper possible scapable of providing improved madial-alaral joint and the composure of the composure o

International application No. PCT/US2010/039587

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Regarding Claim 59, Lang modified by Johnson and Hajaj discloses the method of Claim 59. Lang falls to explicitly teach of a method further comprising a single bibli lesert for each of the two tible injent trays. Haja, however, teached a cit bibli injent from the comprising a single bibli lesert for each of two tiblial implant rays (1 tibl 130 reside within 1 tal 130, respectively, Fig. 59.). It would here been obvious to one of ordinary skill in the art at the time of the invention to use the dual tiblial lesert and tray approach of Hajaj with the disclosure of Lang to create a knew growthesis capable of providing improved media-lateral joint stability.

Regarding Claim 80, Lang modified by Johnson and Hajal discloses the method of Claim 54. Lang fails to explicitly teach of a method further comprising adjusting height of first articular surface relative to second articular surface. Hajal, however, teaches of a further comprising adjusting the height of a first articular surface relative to a second articular surface (vary tibial insert thickness to thereby adjust a height of the insert, and to active signment balance, different feart thickness exc unbe used in each of the medial and steral compartments, Plans (DOSE), it would have been obvious to ordinary salf in the art at the time of the invention to sus the face of the control of the

Regarding Claim 61, Lang modified by Johnson and Hajaj discloses the method of Claim 54. Lang further teaches of a method further comprising aligning the patient's joint (joint alignment, Para [0423]).

Reparding Claim 82, Leng modified by Johnson and Hajid discloses the method of Claim 61. Leng further teaches of a method further comprising assessing the alignment of the pellant's joint (identiming) joint paper within or the open joint spaining reasons, the method all read island joint space width may be compared and differences in medial and island joint space width may be utilized to optimize the desired propositions in the controlled in a think of the period of the information, Pars. (1922a).

Regerding Cleim 63, Lang modified by Johnson and Hajaj discloses the method of Claim 81. Lang further teaches of a method further comprising adjusting alignment of the patient's joint (subsequent adjustments and fine-tuning of surgical intervention, Para (0496)).

Regarding Claim 64, Lang modified by Johnson and Hejaj discloses the method of Claim 54. Lang further teaches of a method further comprising edjusting rotational alignment of the patient's joint (total knee replacement involving femore) and tiblal component rotation, Claims 97:98 and 101-1031.

Regarding Cleim 65, Lang modified by Johnson and Hajel discloses the method of Cleim 54, Lang further teaches of a method further comprising adjusting linear alignment of the patient's just (correcting as for alignment of taring final arthoplasty (C.4.7, and correction turner, or example, be designed to achieve a result wherein the femoral 3001 and tibial 3803 axes will coincide with the biomechanical axis 3505.

Pans. (A953).

Regarding Claim 66, Lang modified by Johnson and Hejaj discloses the method of Claim 54. Lang further teaches of a method further comprising edjusting alignment of the patient's femur and tible (joint alignment, Pare. [0423], end total knee replacement involving femoral and tiblal component totalion, Claims 97-98 and 101-103).

Regarding Claim 87, Leng modified by Johnson and Hejej discloses the method of Claim 54. Lang further teaches of a method further comprising edjusting a blomechanical axis of the patient's joint (Peragraphs (0435), [0438] end [0439]).

Regarding Cleim 68, Lang modified by Johnson and Hejaj discloses the method of Cleim 54. Lang further teaches of a method further comprising adjusting an anatomical axis of the patient's joint (Paragraphs (0435), (0438) and (0439)).

Regarding Claim 89, Lang modified by Johnson and Hojej discloses the method of Claim 54. Lang further teaches of a method further comprising balencing a patient's joint (Para. [0423] and Cl. 4).

Regarding Claim 70, Lang modified by Johnson and Hejaj discloses the method of Claim 69. Lang further teaches of a method further comprising assessing (determining joint space width of a knew joint using imaging scars, the medial and lateral joint space width may be compared and differences in medial and lateral joint space width can be utilized to optimize the desired postoperative correction in anisomical or biomechanical axis alignment based on this information, Para. (9228)) the belance of the patient's joint ((igament balanchy, Para. (9228)).

Regarding Claim 71, Lang modified by Johnson and Hajaj discloses the method of Claim 89. Lang further teaches of a method further comprising adjusting the balance of the patient's joint (ligament balancing, Para. [0423], and subsequent adjustments and fine-funing of surgical intervention, Para [0494].

Regarding Claim 72, Lang modified by Johnson and Hajaj discloses the method of Claim 69. Lang further teaches of e method wherein balencing of the patient's joint to expensive patient's joint in extension (ligement belanding, Para. [0423]).

International application No. PCT/US2010/039587

Supplemental Box

In case the space in any of the preceding boxes is not sufficient. Continuation of:

Regarding Cleim 73, Lang modified by Johnson and Hajaj discloses the method of Claim 69. Lang further teaches of a method wherein balencing of the patient's joint comprises balancing of the patient's joint in fiexion (ilgament balancing, Para. (0423)).

TO THE REPORT OF THE PROPERTY OF THE PROPERTY

Regarding Claim 74, Lang modified by Johnson and Hajaj discloses the method of Claim 54. Lang further teaches of a method further comprising planning a surgical procedure based on electronic image data of the patient's knee (Parag. (0039)).

Regarding Claim 75, Lang modified by Johnson and Hajaj discloses the method of Claim 74. Lang further teaches of a method further performing the surgical procedure (performing image guided surgery, Para, 104371).

Regarding Claim 76, Leng modified by Johnson and Hejaj discisses the method of Claim 74. Lang further teaches of a method further comprising planning the surgical procedure based on electronic image data of the patient's knee (Parag. [0039]) in order to achieve a prodetermined surgical result (partial joint replacement or lisament repair, Pora. [0437]).

Regarding Claim 77, Lang modified by Johnson and Hajaj discloses the method of Claim 76, Lang further teeches of a method wherein step b) substantially achieves the predetermined surgicel result (partial knee joint replacement, [0437]).

Regerding Claim 78, Lang modified by Johnson and Hajaj discloses the method of Claim 76. Leng further teaches of a method wherein the surgical result includes joint balancing (Para. [0423]).

Regarding Cleim 79, Leng modified by Johnson end Hejaj discloses the method of Claim 76, Lang further teaches of a method wherein the surgical result includes joint alignment (Para. [0423]).

Regarding Claim 80, Lang modified by Johnson and Hajaj discloses the method of Claim 54. Lang further teaches of a method further wherein step b) comprises inserting a first insert (insertion of tibial implent 2415, Fig. 26Y and Para. [0154]).

Regarding Cleim 81, Lang modified by Johnson and Hajaj discloses the method of Claim 80, Lang further teaches of e method further comprising edjusting balence with a second insert (use of spacers in Parag. [0494], or triel implants in Paragraphs [0496]-[0497]).

Regarding Claim 82, Leng modified by Johnson and Hajaj discloses the method of Claim 80. Leng further teeches of e method further comprising adjusting alignment with e second insert (use of trial implent for intreopertative edjustment, Peragraphs (0.496)-(0.497)).

Regarding Cleim 83, Lang modified by Johnson and Hajej discloses the method of Claim 80. Lang further teaches of e method further comprising inserting a second insert (use of trial implant for intraopertative adjustment, Peragrephs [0496]-[0497]).

Regerding Cleim 84, Leng modified by Johnson and Heijel discloses the method of Claim 83, but fails to explicitly teach of a method function comprising replacing the second insert with a third insert. It would have been obvious to one of ordinery skill in the art et the three line invention was aread to replace a second insert with a third insert, usual as replacing one that implant with norther triel implant, to improve ligament balance, since the use of trial implants to make edjustments before insertion of a permenent implent is well known in the art.

Regerding Claim 85, Lang modified by Johnson and Hajaj discloses the method of Claim 84, further teaches of a method further comprising adjusting balence with the third insert (balancing of knee using a number of spacers, Pere. [0633]).

Regarding Claim 86, Lang modified by Johnson and Hajaj discloses the method of Cleim 84. Lang further teaches of a method further comprising edjusting elignment with the third insert (joint alignment, Para. [0423]).

Claims 1-94 meet the criteria set out in PCT Article 33(4), and thus heve industrial epplicebility because the subject matter Claimed can be made or used in industry.